



AERONAUTICS BULLETIN

THE STATE OF MINNESOTA PROVIDES THIS TECHNICAL BULLETIN
IN THE INTEREST OF AVIATION SAFETY AND TO PROMOTE
AERONAUTICAL PROGRESS IN THE STATE AND THE NATION

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Secrets in the Clouds

Civil Air Patrol, Cadets give selflessly to help state, nation

By Dan McDowell

There is an official organization in Minnesota and actually in every state, that members jokingly refer to as the nation's best kept secret. That organization is Civil Air Patrol (CAP), the official Auxiliary of the United States Air Force.

The Minnesota Wing of CAP is headquartered at Fleming Field, South Saint Paul Airport, in St. Paul, Minn. Wing HQ helps to administer, guide and direct twenty-four Squadrons and Flights around the state that are comprised of 763 Senior members (members 18 years old and above) and 556 Cadet members (members from 12-21 years old).

All members are 100 percent volunteers. They work countless hours giving selflessly to provide the state and nation with highly trained and dedicated air/ground search and rescue (SAR) crews and equipment. Recently, CAP has taken on the added responsibilities of assisting with Homeland Defense (HD) and security.

CAP missions include more than just HD and SAR ... and this is where one of the secrets is revealed. Their missions also include aerospace education and cadet training. Great things from CAP come about as a result of member's hard work and tremendous efforts. But some of the most amazing results coming from CAP are the many outstanding young Cadet members.

These remarkable young people receive an intensive training



Cadet Captain Jessica Andrie, a resident of Paynesville, is a certified private pilot and glider pilot.



Cadet Captain Jessica Andrie

program that continues throughout their Cadet careers. Nearly all Cadets are full time students. Some of them also have part time jobs. Yet with all the requirements and commitments to CAP, school, and work, many Cadets rise above these trials, and shine with a brilliance that makes a lot of their peers, and those who are well past their teen years,

a bit envious.

...only the details

One such person is Cadet Captain (C/Capt) Jessica Andrie, a member of North Star Cadet Squadron in St. Cloud, Minn., and a resident of Paynesville. This amazing young woman recently accomplished something few others have done. "Jess," as she is known to her friends, recently earned her second flight rating.

See CAP, page 12

AVIATION is a TEAM effort

The Mn/DOT Aeronautics *Technical Bulletin* is published in the interest of aviation safety and to promote aeronautical progress in the state and nation. It is our continuing goal to provide timely, interesting and useful articles on subjects of importance and value to the aviation community and industry.

This *Technical Bulletin* is produced in Minnesota however, it is generally written to benefit aviators anywhere. While we often hear from Minnesota readers, we also occasionally hear from readers in other states. They often provide some thought-

provoking questions and share some great information with us. We appreciate that kind of support, assistance, and teamwork.

Aviation is something of a total team effort, even when we fly solo. Thus, the information and feedback we receive from our readers helps us to be sure we are meeting their general informational needs and desires.

Thanks for reading our Tech Bulletins. Thanks also for being a wonderful resource of information for us whenever we call on you. You are appreciated.

— Dan McDowell



The Minnesota Seaplane Safety Seminar, held at Cragun's Resort in early May, was a great weekend to learn about safety and see some beautiful seaplanes, like the ones pictured above.

CAP

Continued from page 11

She is now a certificated Private Pilot and also glider pilot.

Jessica was born and raised in Wadena, living there until she and her family moved to Paynesville, Minn., where she attended high school. She is now a full time sophomore, and an honors student at St. Cloud State University. She will soon transfer to the University of North Dakota to pursue studies in Air Traffic Control. She is an avid runner and swimmer who strives to maintain a good balance of mind and body fitness.

When asked what drew her to aviation, Jessica said, "I have always been interested in aviation, so joining CAP seemed like a good opportunity for some experience in aviation." She continued, "I always wanted to get my single engine land pilots certificate which I earned in March. I became interested in gliders after I attended the CAP Cadet Flight Academy in July 2002. I soloed there and had so much fun in the glider that I finished my license in the summer of 2003!"

Jessica Andrie has been a CAP member for only three years, but in that short period of time, she has earned many CAP awards. In 2003 she was also recognized for her many accomplishments by being named the 2003 Cadet Officer of the Year, by the Air Force Sergeants Association.

North Star Cadet Squadron Commander Lieutenant Colonel Craig Lommel, himself a pilot and a 21-year veteran of service to CAP said, "When Jessica decides to accomplish something, she seeks out any information or help she needs to accomplish her goal. What she has done in CAP is amazing."

Craig Lommel continued, "By earning these two coveted flight certificates, Jessica has set herself apart from many, but uses her outstanding accomplishments to help motivate others. She is quite enthusiastic about flying and is clearly very goal oriented." He added, "This Squadron and the CAP programs have helped Jessica to learn and develop her excellent leadership and management skills. She is an intelligent, dedicated, and hard working young person who is a tremendous role model, not just for her peers, but for anyone."

C/Capt. Andrie's spirit and drive are evident. When asked what advice she would give other young women she said, "Go for it!...(sic) aviation is a wonderful industry and there are many opportunities for men and women alike. Don't let anything deter you." She added, "You have to work hard. School is very important. Make connections with as many people in your industry as you can." She paused and finished, saying, "If you keep your goal in mind, getting there is 'only the details.'"

CAP is the Auxiliary of the U.S. Air Force. There are more than 64,000 members, including 27,000 cadets ages 12-21, in eight geographic regions, with 52 wings, and 1,700 units. National Headquarters is located at Maxwell Air Force Base, Alabama. CAP owns and maintains the world's largest fleet (550) of single-engine, piston aircraft for SAR, training, and other missions. CAP also operates the nation's most extensive communications network and more than 1,000 emergency services vehicles. For more information on CAP go to: <http://www.cap.gov/>. For Minnesota information contact: www.mnwg.cap.gov/, and for North Star Cadet Squadron information go to: <http://www.mnwg.cap.gov/northstar>

Zone Alert !!!

By Dan McDowell

Those who fly planes do so because of their love of flying. They nearly always do it with great passion and spirit. One can frequently hear their stories about exciting flights or unusual landings, wherever the pilots hangout. But there is another passionate group of aviators who may have several hundred aircraft takeoffs and only a handful of aircraft landings. They are called skydivers.

Skydivers really enjoy the thrill of launching themselves into open space and falling at near terminal velocity towards the earth. They smile and talk about the great view and the rush of the wind. They jump at the opportunity (no pun intended) to describe the unique excitement as they pull the ripcord and feel the sudden jerk of the chute opening.

Well, however one "flies" it is critically important to the safety of all to remember we share the air with many others. Though the big sky seems to be invitingly empty, it is alive with birds, many other aircraft, and skydivers.

Skydivers frequently free fall at velocities at 120 m.p.h. or faster. Despite their often flamboyantly colored jumpsuits, skydivers are extremely difficult to spot from other aircraft. In addition, there isn't a lot of time to spot them, because it takes just over one minute to free fall to "parachute opening altitudes" of 4,000 feet to 2,000 feet AGL, when jumps occur from typical altitudes of 10,000 to 15,000 feet.

It is very important for pilots to be aware of skydivers and the locations of drop zones (DZ's) along the intended routes of flight. DZ's are indicated on the Sectional by a small parachute symbol. If skydiving activity is not frequent enough to warrant a symbol on the Sectional, information about skydiving activity will be included in the Airport/ Facility Directory, in the general description of the airport. In addition, each DZ is required to issue a standing NOTAM describing its jumping operations. Pilots should also be monitoring ATC, and the appropriate Unicom frequencies.

The FAA regulates skydiving activity under Part 105 "Parachute Operations" of Title 14 of the Code of Federal Regulations. Flight operations for skydiving are conducted under Part 91 "General Operating and Flight Rules" (14 CFR 91). FAA

Advisory Circulars provide additional guidance about aspects of skydiving operations, for instance, FAA Advisory Circular 105-2, "Sport Parachute Jumping" and FAA Advisory Circular 90-66, "Recommended Standard Traffic Patterns for Aeronautical Operations at Airports without Operating Control Towers", provide additional detailed information

If you are still unsure about DZ's and how to find them, check out the United States Parachute Association web site at: <http://www.uspa.org>. Their site is easy to navigate and contains a wealth of useful and interesting information. Who knows? Maybe you will get the urge to try skydiving.

The most important point here is to be always vigilant when you fly. Make sure you plan your flight thoroughly. Know what is along your route of flight whether on the ground or in the air. Always be alert to other air traffic. Give a wide berth, whenever possible, to any DZ along your route, just to be safe. Make sure you are Zone alert!



T-Storm Facts

Surface dew point and temperature are a good indicator of storm severity. Thunderstorms forming over an area where the dew point is 50 F or higher with more than a 30 degree spread between temperature and dew point indicate a potential for extremely strong storms.

Provide extra distance from cells moving at 20 knots or greater and the cell at the south end of a line of storms. This cell does not have to compete for moisture with other cells so it usually has an abundant "fuel" supply to generate turbulence.

Consider delaying takeoff when a cell is closer than 20 miles to the departure airport.



It's so sweet

Someone once said flying resembles a box of candy. Until you really get into it, you never know how sweet it can be. With summer here, what better time is there to learn about flying, aircraft maintenance, airport operations and the vast array of aviation industry career fields? What better time is there to improve your flying proficiency or even upgrade your rating? If you have tried flying on floats, go find the nearest seaplane base and go for a ride. I did and I love it!!!

I have said many times that aviators who are properly rated and completely current should, whenever the opportunity arises, take a young person up for a ride. Show them the beauty and excitement of flight. But I'll open that up and say why not take someone from your city leadership for a flight around your town.

Let them see the advantages and value of the airport and flying. Educate them about all the great things that aviation brings to a community. Help them understand that aviation benefits everyone, even those who have never flown! Show them the importance of supporting and maintaining a quality airport in the community. It is a small investment in the future of your airport and aviation in your community, that could pay great benefits in the future.



When you go flying this summer, instead of just flying from point A to point A or point a to your usual point B, why not get a little adventurous and visit a different Minnesota airport. You have more than 135 airports to choose between! Make this a summer of flying fun. Share aviation! Doing so enhances its value to the entire community. Be safe. Be alert, and enjoy the summer. It's so sweet!

— *Raymond J. Rought*
Director, Office of Aeronautics

Summer flying facts

Summer haze can reduce flight visibilities to almost zero, even when ground visibility is 3 miles. When flying over bodies of water (lakes, bays) haze can obscure the horizon, and pilots should be ready to fly by instruments. This can pose serious problems for students and low-time private pilots. The haze also makes clouds, thunderstorms, and other aircraft difficult to see.

When weight is not a factor for the next flight, fill the tanks right after landing. The high humidity of summer can cause moisture to form in fuel tanks as they cool.

Always check density altitude against aircraft performance figures. Density altitude is pressure altitude (the altitude read from the altimeter when 29.92 inches set) corrected for nonstandard temperature.

Surface dew point and temperature are a good indicator of storm severity. Thunderstorms forming over an area where the dew point is 50 F or higher with more than a 30 degree spread between temperature and dew point indicate a potential for extremely strong storms.



**More scenes
from the
seaplane
conference
held in early May
at Cragun's Resort
on East Gull Lake
in Brainerd.**

Photos by Tim Franklin